

IN THE CLAIMS:

The text of all pending claims, (including withdrawn claims) is set forth below. Cancelled and not entered claims are indicated with claim number and status only. The claims as listed below show added text with underlining and deleted text with ~~strikethrough~~. The status of each claim is indicated with one of (original), (currently amended), (cancelled), (withdrawn), (new), (previously presented), or (not entered).

Please **AMEND** claims 1-14, and **ADD** new claims 15-20 in accordance with the following:

Claim 1 (Currently Amended): A closed type device for cell culture device comprising:
an incubator ~~means for culturing cells;~~
a heat insulation box ~~means in which the incubator means is disposed in the state suitable for cell culture and which keeps the incubator means at a given temperature;~~
a driving means for ~~relatively rotationally~~ moving the incubator means in the heat insulation box; ~~means;~~
a medicine supply means unit for supplying a new medicine to the incubator means in the heat insulation box ~~means from the outside of the heat insulation box;~~ ~~means;~~
a wastewater discharge means unit for discharging unnecessary wastewater to the outside of the heat insulation box ~~means from the incubator means in the heat insulation box means;~~ and
a culture state observing means unit for observing ~~the~~ state of culture of cells in the incubator means in the heat insulation box ~~means from the outside of the heat insulation box;~~ ~~means~~
wherein the incubator is substantially circular with its circular center being offset from a rotational axis of the driving means.

Claim 2 (Currently Amended): A device for cell culture according to claim 1, further comprising:
wherein a pump and; a valve and a flexible tubular member are provided between the incubator means and the medicine supply means unit, via a flexible tubular member, to carry out

supply cell culture and to recover of the cells.

Claim 3 (Currently Amended): A device ~~for cell culture~~ according to claim 1, wherein the incubator ~~means~~ is a vessel having a smooth central part and comprising a transparent and nontoxic material.

Claim 4 (Currently Amended): A device ~~for cell culture~~ according to claim 3, wherein the transparent and nontoxic material is polystyrene or polyethylene terephthalate.

Claim 5 (Currently Amended): A device ~~for cell culture~~ according to claim 1, wherein the culture state observing ~~means~~ unit is provided with a camera to observe cultured cells in the incubator.

Claim 6 (Currently Amended): A device ~~for cell culture~~ according to claim 5, which is ~~provided with a~~ further comprising camera moving means which allows the camera to scan all over the surface of the incubator ~~means~~ and which can set the point ~~point~~ in the cell-incubator ~~means~~ in the direction of an optical axis.

Claim 7 (Currently Amended): A device ~~for cell culture~~ according to claim 6, further comprising which is ~~provided with a~~ memory ~~means~~ which memorizes the a ~~a~~ photographing position of the camera on the incubator ~~means~~ and in which the camera moving means reproduces the same photographing position as memorized in the memory ~~means~~.

Claim 8 (Currently Amended): A device ~~for cell culture~~ according to ~~any one of claims 1, 2 and 5~~ claim 1, further comprising a vessel for storing cells before cell culture and a vessel for storing cells after cell culture, wherein each vessel is provided with a cap and a thin tube extending to the outside of which is sealed with a blocking member is provided, the thin tube is of the vessel, via the cap, to serve as a cell supply opening or a cell recovery opening, a vessel for storing cells is provided, and a bactericide-impregnated member is provided in the upper part a storing chamber of the vessel cap, and where the thin tube is thrust through the bactericide-impregnated membrane and thereafter inserted into the vessel.

Claim 9 (Currently Amended): A device ~~for cell culture according to claim 2,~~ wherein a gas bomb is provided for supplying an atmosphere to the heat insulation box ~~means,~~ and the valve is opened and closed using the gas pressure of the gas bomb as a driving source.

Claim 10 (Currently Amended): A device ~~for cell culture according to claim 2, further comprising which has a~~ medicine amount determining means unit which determines, by the ~~an~~ operation time of the pump, the ~~an~~ amount of medicine supplied to the incubator ~~means from the~~ medicine supply means unit.

Claim 11 (Currently Amended): A device ~~for cell culture according to claim 1,~~ wherein the wastewater discharge means unit comprises a flexible tubular member, a pump and a wastewater tank connected to the incubator via the flexible tubular member, and ~~one of them~~ is provided with a pH measuring part to measure a pH level of the wastewater.

Claim 12 (Currently Amended): A device ~~for cell culture according to claim 11,~~ wherein the pH measuring part has a material which changes in color with a change of pH, and a light receptor element which reads the color of the material.

Claim 13 (Currently Amended): A device ~~for cell culture according to claim 2, further comprising which is provided with a~~ control means unit which memorizes the timing and ~~content~~ of supply of cells, the rotational movement of the incubator, the supply of medicine, and the supply and recovery of the wastewater and cells to perform ~~these~~ culturing steps of cells.

Claim 14 (Currently Amended): A device ~~for cell culture according to claim 13,~~ wherein the control means ~~has~~ unit is provided with an interface which ~~exchanges to~~ exchange culture information with other control means ~~in the case of operating the device for cell culture when operated~~ a plurality of times.

Claim 15 (New): A closed type cell culture device for automatically performing operations for cell culture during a culture period, the device comprising:
an incubator for culturing cells;
a heat insulation box in which the incubator is disposed for cell culture and which keeps

the incubator at a given temperature;

driving means for rotationally moving the incubator in the heat insulation box;

a reserve tank to supply new medicine to the incubator in the heat insulation box;

a wastewater tank to discharge used medicine from the incubator in the heat insulation box; and

a culture state observing unit for observing a state of the cell culture in the incubator in the heat insulation box;

wherein the incubator is substantially circular with its circular center being offset from the rotational axis of the driving means for rotationally moving the incubator so as to allow the incubator to be shuffled for uniform seeding of the cells to be cultured.

Claim 16 (New): The closed type cell culture device according to claim 15, further comprising:

a network; and

a monitor and control device connected to the closed type cell culture device, via the network, to enable a user to remotely monitor the state of the cell culture in the incubator during the culture period and to inform the user of any abnormality occurred during the culture period.

Claim 17 (New): The closed type cell culture device according to claim 15, further comprising:

means for circulating air in the incubator; and

a filter to remove impurities from the air.

Claim 18 (New): The closed type cell culture device according to claim 15, wherein the culture state observing unit is provided with a camera to observe cultured cells in the incubator, and a mechanism to move the camera to scan the surface of the incubator and set points in the incubator in the direction perpendicular to the incubator.

Claim 19 (New): The closed type cell culture device according to claim 15, further comprising a medicine amount determining unit which determines an amount of medicine supplied to the incubator from the reserved tank.

Claim 20 (New): The closed type cell culture device according to claim 15, further comprising a control unit which memorizes the timing and supply of cells, and controls the rotational movement of the incubator, the supply of new medicine, and the recovery of used medicine and cells during the culture period.